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Final report for NASA grant NAG5-1456:
ROSAT All-Sky Survey: Symbiotics Stars
To the University of Colorado
Principal Investigator: Dr. Robert E. Stencel
Center for Astrophysics and Space Astronomy, Campus Box 391

Covering the period: 10/1/90 -- 9/30/92, incl. no cost extension.

OBJECTIVES:

The purpose of this grant was to provide for initial investigation of the x-ray properties of a class of interacting binaries known as symbiotic stars, through analysis of their detection statistics in the ROSAT All-Sky Survey. This study was expected to result in enhanced information on mass transfer and accretion in such systems, and provide a more quantitative basis for interpretation of the spectra of these and similar stellar and extragalactic systems. We have succeeded in this purpose.

N94-70896

Unclas

This particular grant represents NASA support for an approved collaboration between the PI and the ROSAT Team at MPE Garching. The international contact has been mutually rewarding and has stimulated scientific achievement based on ROSAT observations.

PROJECT HIGHLIGHTS:

Papers citing support of NAG5-1456:
Scientific paper entitled: "ROSAT All-Sky Survey Detections of Symbiotic Binaries" has been submitted (9/92) to Astronomy and Astrophysics Journal, with authors K.Bickert (MPE), R.Stencel & E.Brugel (Colo), S.Kenyon (CfA), T.Fleming & J.Schmitt (MPE). The sky survey data was used to double the number of previously known X-ray emitting symbiotics, and to provide indication that all X-ray symbiotics are not necessarily soft X-ray sources. This report should appear in print during 1993 and is appended.

Brief scientific report presented at the Seventh Cool Stars Workshop (Oct.91 in Tucson), entitled: "ROSAT Survey and IUE Observations of Symbiotic Stars" (Stencel, Brugel, Kenyon, Bickert, Fleming and Schmitt), ASP Conf. Ser. Vol. 26, pp.46-48.

Papers in preparation at this time:

"COMPENDIUM OF ROSAT SURVEY X RAY UPPER LIMITS FOR SYMBIOTICS"

K.Bickert and R.Stencel, in preparation.

"ROSAT PSPC AND WFC DETECTIONS OF AG DRACONIS"

R.E.Stencel, A.Brown, K.Bickert, T.Fleming, J.Schmitt, G.Bromage, J.Pye, R.Polidan and R.Viotti

1993 ApJ in preparation.

"IUE AND ROSAT SKY SURVEY OBSERVATIONS OF THE SYMBIOTIC STARS

CH CYG, R AQR AND AG DRA"

R.Viotti et al. (incl. R.Stencel)

1993 Astron.Astrophys. in preparation.

Additional noteworthy events:

Grant supported visits to Max Planck Institute for collaborative effort on this effort occurred Nov.1990 and Jan.1992.

(NASA-CR-193340) ROSAT ALL-SKY
SURVEY: SYMBIOTIC STARS Final
Report, 1 Oct. 1990 - 30 Sep. 1992
(Colorado Univ.) 2 p

Continued collaboration beyond expiration of this grant is highly likely given success with Guest Observer proposal requests in related research areas (A03), modulo ROSAT status.

Encl.